

REMARKS

1. The Examiner has rejected claims 1-10 under 35 U.S.C. 112 second paragraph, as being indefinite as claim 1 attempts to claim two different products or an intermediate and final product.

The Applicant has amended claim 1 to a product by process claim in which only the final product is claimed. Therefore, Applicant respectfully submits that claim 1 as amended, and claims 2-10 which depend on claim 1, are definite as required by 35 U.S.C. 112 second paragraph.

2. The Examiner has rejected claims 1-10 under 35 U.S.C 103(a) as being unpatentable over Fan et al. U.S. Application 2004/0104544 in view of De Jager U.S. Patent 5,439,627. In particular, Fan is said to teach all elements of claim 1 except that the ceramic seal has a higher porosity and is substantially free of binder after firing. De Jager is said to teach that the porosity of ceramic matrix composites increases as binder is removed by heating. More particularly, it is said that by the teachings of both Fan and De Jager that it is obvious to discover the optimum value of a result effective variable, such as fired porosity between 40% and 50%, by adjusting the aluminum oxidation and binder burn-off.

Applicant respectfully traverses. It is well known that removing a binder from a ceramic matrix by heating increases porosity (see De Jager, column 6, line 20). It is well known that porosity is generally an undesirable quality for a seal. Fan teaches that porosity is to be minimized in order to increase seal effectiveness. De Jager teaches that the cavities and voids left by a binder removed from a ceramic matrix by heat must be filled (see De Jager, column 3, line 55). However, despite the possibility of later filling in the cavities and voids, those skilled in the art have generally avoided the manufacture of seals by the process of removing binder from a ceramic matrix by heating, because of the increased porosity. Therefore, it would not be obvious to one skilled in the art to combine the teachings of Fan and De Jager. That ceramic seals manufactured by removing a binder from a ceramic matrix by heating could produce a tolerable level of porosity, without filling, is an unexpected result.

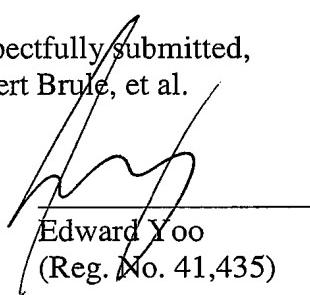
Therefore, Applicant respectfully submits that claim 1, as amended, and claims 2-10 which depend on claim 1, are not obvious over Fan et al. U.S. Application 2004/0104544 in view of De Jager U.S. Patent 5,439,627.

CONCLUSION

Applicant respectfully submits that claims 1-10 are now in condition for allowance, and allowance is respectfully requested.

Respectfully submitted,
Robert Brule, et al.

By


Edward Yoo
(Reg. No. 41,435)

CORRESPONDENCE ADDRESS Customer No. 22828